



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, Washington 98101

November 1, 2005

Reply To
Attn Of: ECL-110

Larry Patterson
Arkema Group
6400 N.W. Front Avenue
Portland, OR 97210

Subject: Comments on Arkema draft EE/CA Workplan, dated September 26, 2005

Dear Larry:

EPA and its partners have reviewed the draft EE/CA Work Plan. We appreciate Arkema's efforts; however, the Statement of Work required significantly more information on certain topics or issues than contained in the draft. Enclosed is a list of the specific comments on the draft work plan. I have provided general comments in this letter that lists changes and/or additions to the work plan that EPA is requiring be made for the work plan to be approved. To ensure that you understand our required changes or if you wish to discuss them, I would be happy to have a meeting for that purpose. If Arkema disagrees with any of these required changes, Arkema should call to discuss them as soon as possible. I remind you of the dispute resolution process provided in the AOC (Section XVI.). Informal resolution should be our goal. Formal dispute is to be initiated within 14 days unless extended.

DIRECTED CHANGES

EPA is directing Arkema to make the following changes to the EE/CA Work Plan:

- Because of the lack of sufficient data presentation, data evaluation, figures and CSM development in the EE/CA Work Plan (WP), EPA is not able to adequately evaluate the Field Sampling Plan (FSP). Therefore, before the next version of the FSP is submitted, Arkema must resolve Work Plan comments prior to completing a revised FSP.
- EPA considers the Summary of Previous Investigations inadequate. Arkema shall revise the summary of data needs in order to adequately assess: (1) the nature and extent of contamination; (2) the COIs that are known to exist at the site, including all contaminants from boundary to boundary; and (3) the mechanisms that move contaminants through the environment. Additional data for both upland and in-water conditions are needed to develop the CSM at a level that will allow for informed analysis and decision-making for this response action.
- Throughout the removal action data collection and analysis, EPA must be able to determine how the removal furthered remedial work that is part of the Harbor-wide RI/FS since a full risk assessment will not be conducted as part of this early action. Arkema is directed to collect data during the removal action for use in the harbor-wide RI/FS and its analysis of pre and post-removal risks to human and ecological receptors.
- The document does not adequately delineate the areal or vertical extent of contamination identified in the previous investigations. The EE/CA work plan should include a map for

- each COI showing extent and estimated thickness of each COI in sediment over the entire river area between thalweg and shoreline and the Arkema south and north property lines.
- Based on information from the Portland Harbor Phase 2A sampling, the data presented in Appendix D of the draft Work Plan and the findings of the upland investigations being performed at the site by ERM and others, additional COIs need to be further investigated. At a minimum, Arkema shall add PCBs, chlorinated dioxins/furans, PAHs, hexachlorocyclohexane, and VOC to the list of COI. Other COI should be added as determined by Arkema through their continued review of background documents and existing data sets.
 - The Work Plan does not include sufficient information for EPA to evaluate potential releases from Lots 1 and 2, or what the sediment quality is adjacent to Lots 1 and 2. Existing data shall be assessed and new data collected as necessary to ensure there is no significant contamination beyond the DDT area. Arkema shall include data from Lots 1 and 2 and show the distribution of data from upland and in water environs. Arkema shall also propose methods to complete data gaps identified for Lots 1 and 2.
 - Arkema shall provide a more comprehensive presentation of potential ARARs given the known circumstances at the site and likely removal action alternatives.
 - Within the Work Plan, Arkema shall present a methodology that will be used or a set of criteria for how the RAA boundary will be delineated. Several criteria that may be used are, but are not be limited to: dredging restrictions generated from material stability, water depth, limiting factors on containment options; dredge methods; recontamination impacts; hydraulic containment alternatives; cost and schedule limitations; institutional controls; and technology limitations.
 - Given the source control evaluation schedule proposed by Arkema in the September 28 meeting (no complete source control evaluation until post EECA), Arkema shall evaluate hydraulic control measures in the EECA for the plumes across the site (DDT, MCB, chromium, perchlorate). Please discuss the data gaps for this effort related to engineering analyses and controls.
 - Arkema shall perform characterization activities that assess contaminant conditions at the entire site in order to determine the RAA boundaries for the EECA.
 - Arkema shall include in the work plan the process to be used and the performance standards to be applied in evaluating upland source control effectiveness. Also the work plan needs to provide a schedule for when EPA will receive the upland source control evaluation effectiveness and recontamination potential.

RECOMMENDED CHANGES

In addition to the directed changes, EPA presents the following summary of comments we see as very important to the successful evaluation of site conditions and possible removal action technologies. These recommended changes are a summary of the comments contained in the attached comment summary.

Contaminants of Concern & Source Control

- The Work plan lacks an adequate summary of upland contamination and the corresponding plans that would ensure upland source controls can meet the SOW RAOs.
- The risks of both DDT and perchlorate are downplayed. Please discuss the specific plans to contain and treat perchlorate. Perchlorate contaminated groundwater plume has not been addressed. Sources of DDT have not been fully characterized in detail for their transport impacts by groundwater.

- Contaminant transport pathways are not sufficiently explained. Data is incomplete and/or misleading. Potential contaminant discharge from transition zone water, intermediate & deep aquifers, sediments, and soil/sediment erosion need to be addressed more thoroughly.
- Toxicity concentration data are misleading. It leads to possible false conclusions about the nature and locations of the contamination and as presented may influence treatment alternative selection.
- Data strongly suggests the presence of groundwater seeps. Data is needed to validate seepage. Seeps will need to be assessed as part of the EE/CA.
- There is no discussion of screening of chemicals found in aquatic biota that are consumed by human receptors.
- Sedimentation rates have not been well characterized. Additional evaluation and discussion is needed.
- Sediment quality characteristics must include not only toxicity but also bioaccumulation from DDT contaminated soil, sediments, & groundwater.
- The proposed sediment testing is likely insufficient to predict contaminants fate & transport during dredging or removal work.
- Additional hydrogeologic characterization & modeling should be performed prior to any long-term containment.
- Additional characterization is necessary to evaluate recontamination from upland source areas.

Removal Action Technologies & Alternatives

- The work plan should include not only technologies but related support technologies for options provided. For example, dredging technology must also include containment methods to avoid spread of contaminants during work. This analysis should be carried forward into the Biological Assessment where these impacts need to be evaluated against USFW and NMFS threatened and endangered species (and likely used in an abbreviated foodweb analysis therein).
- Hydraulic containment shall be evaluated in the EE/CA, as noted above. In addition, there remain data gaps relative to hydraulic dredging.
- Technologies and alternatives should also discuss upland source control technologies that may be necessary to reduce recontamination and contaminant flux concerns from upland to in water areas.

Sampling & Analysis

- More media need to be sampled (e.g., ground water as well as sediment cores) and the depth of borings/samples needs to be expanded.
- Samples need to be analyzed for a more complete suite of COIs
- Chemical analysis for Subtitle C/D disposal must be conducted in the EE/CA, including an evaluation of the leachability of contaminants to determine if dewatering is necessary prior to transportation to the disposal facility. Sediment pretreatment may be required prior to transport to some confined disposal facilities.

Cultural Resources

- The LWG Survey is inadequate. Site specific cultural surveys are needed to complete the cultural resources assessment.

Please contact me at (206) 553-1220 or Sheldrake.sean@epa.gov with questions or concerns.

Sincerely,

Sean Sheldrake, RPM

Enclosure

Cc:

Audie Huber, Umatilla Tribe
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via email only